



Contribution ID: 2

Type: not specified

## High redshift blazars with LSST

*Tuesday, 18 February 2020 14:50 (30 minutes)*

The discovery of high- $z$  blazars ensures the census, free from obscuration effects, of supermassive black holes (SMBHs) hosted by radio-loud active galactic nuclei (AGNs) in the early Universe, and provides strong and critical constraints on the accretion mode, mass and spin of the seed of SMBHs.

Blazars are rare sources: only 8 blazars have been discovered to date at  $z > 5$ , with the most distant being at  $z = 6.1$  (Belladitta et al. 2020, A&A letter submitted).

Selecting high- $z$  blazar candidates requires a multi-wavelength approach and the use of large area surveys that cover almost the total of the entire sky at a reasonable depth. In this talk I will show how the combination of the Large Synoptic Survey Telescope data with current (e.g. SUMSS, NVSS, TGSS) and future (e.g. EMU) radio all-sky surveys, will significantly increase the number of high- $z$  blazars ( $\sim 100$  at  $z > 5$ , with 15 – 20 expected at  $z > 6$ ) pushing the limit up to  $z \sim 8$ . This will allow the most accurate estimate of the space density of radio-loud AGNs population in the early Universe, also well within the re-ionization epoch.

**Primary author:** Ms BELLADITTA, Silvia (INAF OA-Brera / Università degli Studi dell'Insubri)

**Co-authors:** Dr CACCIANIGA, Alessandro (INAF OA-Brera); Dr MORETTI, Alberto (INAF - OA Brera)

**Presenter:** Ms BELLADITTA, Silvia (INAF OA-Brera / Università degli Studi dell'Insubri)

**Session Classification:** Presentazione di progetti scientifici